

CLAIMS

I claim:

1. A method of transmitting television programming
5 and advertising from a head end to a plurality of subscriber
nodes, said method comprising the steps of:

(1) creating a plurality of subscriber groups, members
of said subscriber groups being based on at least one
characteristic of said subscribers relevant to advertising;

10 (2) receiving at least one channel of television
programming;

15 (3) forming from said at least one channel of
television programming a plurality of presentation channels of
television programming identical to said at least one
programming channel, each presentation channel corresponding to
a subscriber group;

(4) storing a plurality of advertisements for
insertion into advertising availabilities in said presentation channels;

(5) storing for each presentation channel a queue

20 comprising an ordered list of advertisement resource locators
(ARLs), said ARLs comprising a pointer to a location of a
corresponding advertisement;

(6) determining advertising availabilities in each of said
presentation channels;

25 (7) for each presentation channel, determining from
said queue corresponding to said presentation channel an

advertisement to be inserted in each avail in said presentation channel;

(8) inserting said advertisement determined in step

(7) into said corresponding avail; and

5 (9) transmitting said plurality of presentation channels to subscriber systems.

10 2. The method of claim 1 wherein each subscriber group comprises a set of subscribers that is mutually exclusive of each other subscriber group.

15 3. The method of claim 1 wherein said transmitting step comprises transmitting each of said presentation channels to at least those subscribers in said subscriber group corresponding to said presentation channel.

20 4. The method of claim 1 further comprising the steps of:

(10) assigning each subscriber to a subscriber group.

25 5. The method of claim 4 wherein step (10) comprises:

(10.1) creating an advertising group map disclosing an advertising group to which each subscriber belongs; and

25 (10.2) transmitting said advertising group map to said subscribers.

6. The method of claim 5 wherein step (10) further comprises:

(10.3) responsive to receipt of said advertising group map, said subscriber nodes determining to which advertising 5 group they belong;

(10.4) creating a presentation channel map disclosing to which advertising group each presentation channel corresponds;

10 (10.5) transmitting said presentation channel map to said subscriber nodes;

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15 (10.6) responsive to receipt of said presentation channel map, said subscriber nodes creating an individual channel map dictating which of said plurality of presentation channels corresponding to each of said programming channels said subscriber node is to select when a user of said subscriber node selects a channel to view.

7. The method of claim 6 wherein step (9) comprises:

20 (9.1) transmitting all of said presentation channels to all of said subscribers.

8. The method of claim 7 further comprising the step of:

25 (11) responsive to a user making a channel selection corresponding to one of said programming channels, said subscriber systems selecting a one of said presentation channels

corresponding to said programming channel selected by said user in accordance with said individual channel maps.

9. The method of claim 1 wherein said programming
5 channel includes indicators that identify the start of an avail in said channel and wherein step (6) comprises detecting said indicators.

10. The method of claim 1 wherein said advertisements
10 are stored in digital form.

11. The method of claim 10 wherein said advertisements are stored in MPEG form.

15 12. The method of claim 10 wherein said at least one programming channel and said presentation channels are in digital format.

13. An apparatus for transmitting television
20 programming and advertising from a head end of a communications system to a plurality of subscriber systems comprising:

a receiver for receiving a plurality of channels of television programming;

25 a plurality of splitters, each coupled to receive one of said channels of television programming and split said channel into a plurality of presentation channels;

10 a first memory storing a plurality of advertisements
for insertion into advertising avail in said presentation
channels;

15 a second memory storing, for each presentation
channel, a queue comprising an ordered list of advertisement
resource locators (ARLs), said ARLs comprising a pointer to a
location of an advertisement;

20 a circuit for determining advertising avail in each
of said presentation channels;

25 an advertising management circuit coupled to said
second memory and adapted to consult said queues to determine
which advertisements are to be inserted in which avail in said
presentation channels;

30 an advertisement insertion circuit coupled to said
presentation channels and adapted to insert said advertisements
into said avail in accordance with the schedules as dictated by
said queues; and

35 a transmitter adapted to transmit said plurality of
presentation channels to said subscriber systems.

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45 14. The apparatus of claim 13 wherein said
advertisement insertion circuit and said advertisement
management circuit comprise digital circuits.

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55 15. The apparatus of claim 14 wherein said
advertisement insertion circuit and said advertisement
management circuit comprise digital processors.

16. The apparatus of claim 15 wherein each presentation channel is assigned to one of a plurality of subscriber groups, members of said subscriber groups being based
5 on at least one characteristic of said subscribers relevant to advertising.

17. The apparatus of claim 16 wherein each subscriber group comprises a set of subscribers that is mutually exclusive
10 of each other subscriber group.

18. The apparatus of claim 13 wherein said transmitter transmits each of said presentation channels to at least those subscribers in said subscriber group to which said
15 presentation channel corresponds.

19. The apparatus of claim 13 wherein said advertisement management circuit further generates an advertising group map disclosing an advertising group to which each subscriber belongs, and causes said transmitter to transmit
20 said advertising group map to said subscriber systems.

20. The apparatus of claim 19 wherein said subscriber nodes comprise:

25 a receiver for receiving at least some of said presentation channels and said advertising group map;

a circuit for determining, based on said received advertising group map, to which advertising group it belongs.

21. The apparatus of claim 20 wherein said
5 advertisement management circuit further generates a
presentation channel map disclosing to which advertising group
each presentation channel corresponds, and causes said
transmitter to transmit said advertising group map to said
subscriber nodes.

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22. The apparatus of claim 21 wherein said advertising management circuit further generates a presentation channel map disclosing to which advertising group each presentation channel corresponds, and causes said transmitter to transmit said presentation channel map to said subscriber nodes.
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23. The apparatus of claim 22 wherein said subscriber nodes further comprise:

a circuit for generating, responsive to receipt of
20 said presentation channel map, an individual channel map
dictating which of said plurality of presentation channels
corresponding to each of said programming channels said
subscriber node is to select when a user of said subscriber
system selects a channel to view.

24. The apparatus of claim 23 wherein said transmitter transmits all of said presentation channels to all of said subscriber nodes.

5 25. The apparatus of claim 24 wherein said subscriber nodes further comprise:

a circuit for selecting, responsive to a user making a channel selection corresponding to one of said programming channels, a one of said presentation channels corresponding to 10 said programming channel selected by said user in accordance with said individual channel map.

15 26. The apparatus of claim 13 wherein said programming channel includes indicators that identify the start of an avail in said channel and wherein said advertisement insertion circuit detects said indicators.

20 27. The apparatus of claim 13 wherein said advertisement insertion circuit comprises a video switch.

28. A method of receiving at a subscriber node at least one channel of television programming and advertising from a head end of a television service delivery system, said method comprising the steps of:

25 (1) assigning said subscriber node to an advertising group;
(2) based on said assignment, enabling said subscriber node to receive and cause to be displayed on a monitoring device a

one of a plurality of presentation channels transmitted by said television service delivery system corresponding to a programming channel.

5 29. The method of claim 28 wherein step (2) comprises enabling with respect to one and only one of said plurality of presentation channels corresponding to said programming channel.

10 30. The method of claim 28 wherein said programming channel comprises television programming and advertising avail and said plurality of presentation channels corresponding to said programming channel contain identical programming and different advertising within said advertising avail.

15 31. The method of claim 30 wherein step (1) comprises storing at said subscriber node data indicating said one of said plurality of presentation channels transmitted by said television service delivery system corresponding to said programming channel that corresponds to said advertising group.

20 32. The method of claim 31 wherein step (1) comprises receiving said data via said television service delivery system.

25 33. The method of claim 32 wherein step (1) comprises receiving said data in a dedicated channel of said television service delivery system.

34. The method of claim 31 wherein step (2) comprises the steps of:

(2.1) receiving a presentation channel map disclosing for each presentation channel how said subscriber node can 5 select said channel for reception and display on a monitor; and

(2.2) creating an individual channel map for said subscriber node indicating which presentation channel to select for enablement in step (2).

10 35. The method of claim 31 wherein said television service delivery system transmits a plurality of said presentation channels corresponding to a programming channel to said subscriber node simultaneously and wherein step (2) comprises selecting one of said presentation channels based on said 15 assignment in step (1).

36. The method of claim 35 wherein step (1) comprises storing data indicating a frequency of said presentation channel corresponding to said advertising group and step (2) comprises 20 tuning to a particular frequency corresponding to said selected presentation channel.

37. The method of claim 28 wherein step (1) comprises receiving a map via said television service delivery system 25 mapping said subscriber node to an advertising group.

38. The method of claim 37 wherein step (1) comprises the steps of:

(1.1) receiving a map mapping a plurality of subscribers to advertising groups; and

5 (1.2) determining from said map to which advertising group said subscriber node belongs.

39. The method of claim 31 wherein said television service delivery system is a switched digital video system that transmits a particular presentation channel to said subscriber responsive to a request received from said subscriber node and wherein step (2) comprises requesting one of said presentation channels corresponding to said programming channel based on said assignment in step (1) when a user of said subscriber node chooses to view said programming channel.

40. The method of claim 39 wherein step (1) comprises storing data indicating a VPI/VCI of said presentation channel corresponding to said advertising group and step (2) comprises requesting said VPI/VCI when a user of said subscriber node chooses to view said programming channel.

41. The method of claim 31 wherein there are a plurality of programming channels, each having a plurality of corresponding presentation channels, that said subscriber node could be enabled to receive and display.

42. An apparatus for receiving at a subscriber node a plurality of channels of television programming and advertising from a head end of a television service delivery system, said channels comprising a plurality of presentation channels, each corresponding to one of a plurality of programming channels, wherein each of a plurality of presentation channels corresponding to one of said programming channels comprises the same programming content, but different advertising content, said apparatus comprising:

10 a memory at said subscriber node;
an individual advertising group map stored in said
memory indicating for each of said programming channels, a one
of said corresponding presentation channels;
15 a circuit for enabling said subscriber node to select
a presentation channel dictated by said individual advertising
group map responsive to an instruction indicating a programming
channel selected for viewing; and
20 a circuit for causing said selected presentation
channel to be displayed on a monitoring device.

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43. The apparatus of claim 42 wherein each of said
programming channels comprises television programming and
advertising avail and each of said presentation channels
corresponding to a programming channel contains identical
25 programming and different advertising within said advertising
avail.

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44. The apparatus of claim 43 further comprising:
a circuit for receiving data via said television
service delivery system from which said individual advertising
group map can be created; and
5 a circuit for generating said individual advertising
group map from said received data.

45. The apparatus of claim 44 wherein said circuit for
receiving comprises circuitry for receiving said data in a
10 dedicated channel of said television service delivery system.

46. The apparatus of claim 44 wherein said data received
by said circuit for receiving comprises a system wide
advertising group map mapping each of said subscribers to an
advertising group and a presentation channel map disclosing for
each presentation channel how said subscriber node can select
said channel and wherein said circuit for creating comprises
circuitry for correlating said advertising group map and said
presentation channel map with said individual advertising group
20 map to create said individual advertising group map.

47. The apparatus of claim 46 wherein said television
service delivery system transmits said plurality of said
presentation channels corresponding to a programming channel to
25 said subscriber node simultaneously and wherein said circuit for
selecting selects one of said presentation channels based on
said individual advertising group map.

48. The apparatus of claim 47 wherein said individual advertising group map indicates a frequency of said presentation channels and said circuit for causing said selected presentation channel to be displayed tunes to said frequency of said selected presentation channel as indicated by said individual advertising group map.

49. The apparatus of claim 31 wherein said television service delivery system is a switched digital video system that transmits a particular presentation channel to said subscriber responsive to a request received from said subscriber node and wherein said circuit for selecting comprises circuitry for requesting a one of said presentation channels corresponding to said programming channel based on said individual advertising group map when a user of said subscriber node chooses to view said programming channel.

50. The apparatus of claim 49 wherein said individual advertising group map includes data indicating a VPI/VCI of each presentation channel listed therein and said circuit for selecting requests said VPI/VCI when a user of said subscriber node chooses to view said corresponding programming channel.